



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,806	01/02/2004	William H. Bridge JR.	50277-2358	1803

29989 7590 02/02/2009
HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110

EXAMINER

FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
----------	--------------

2162

MAIL DATE	DELIVERY MODE
-----------	---------------

02/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/750,806	Applicant(s) BRIDGE ET AL.	
	Examiner JEAN B. FLEURANTIN	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15/19/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 18 is/are allowed.
- 6) ☒ Claim(s) 1,8,10,16,17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This is in response to Applicant(s) arguments filed on 15/19/2008.

The following is the current status of claims:

Claims 1-20 remain pending for examination.

Response to Arguments

The Examiner will address the arguments in the order submitted by the applicant(s).

Applicant's arguments, filed on 15/19/2008, with respect to 35 U.S.C. § 101 rejection(s) of claims 1-9 and 19 have been fully considered and are persuasive. The objections has (have) been withdrawn.

Applicant's arguments, filed on 15/19/2008, with respect to 35 U.S.C. § 112, second paragraph, rejection(s) of claims 1-8, 10-17, 19 and 20 have been fully considered and are persuasive. The objections has (have) been withdrawn.

Moreover, applicant's arguments, with respect to the rejections of claims 9 and 18 under 35 U.S.C. § 103(a) have been fully considered and are persuasive. Therefore, the rejections of claims 9 and 18 have been withdrawn.

However, upon further consideration, with respect to claims 1-8, 10-17 and 19-20 a new ground(s) of rejection is made in view of Checkpointing Schemes for fast restart in Main Memory Database Systems issued to Dongho Lee et al., and USPT No. 5,983,m361 issued to Jin Lee et al set forth in section 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 8, 10, 16-17 and 19-20 are rejected under 35 U.S.C.103(a) as being unpatentable over "background, specification page 1, paragraph [0004] to page 9, paragraph [0028]" - (Applicant Admitted Prior Art) ("APA") in view of Checkpointing Schemes for fast restart in Main Memory Database Systems issued to Dongho Lee et al., ("Dongho Lee"), and further in view of USPT No. 5,983,361 issued to Jin Lee et al., ("Jin Lee").

As per claim 1, APA discloses "a method comprising the steps of storing a checkpoint value" (i.e., checkpointing all buffers in buffer cache that contain changes since being loaded from database; page 8, lines 1-2) "that indicates which records of a plurality of records have to be processed after the failure" (i.e., data recoverable is to write redo records into a redo log file in nonvolatile memory, in which the redo records containing a description of the changes that were made by a particular transaction, enabling a recovery process to reapply the changes in the event of a failure; page 3, paragraph [0010]), "wherein the plurality of records indicate changes for a plurality of data blocks" (i.e., data items or data blocks; page 4, paragraph [0013] and figure 1, item 128); and

"writing changes from volatile memory to nonvolatile memory to advance the checkpoint value" (i.e., checkpoint process then marks as needing checkpointing all buffers in buffer cache that contain changes since being loaded from database; page 7, paragraph [0023] and figure 1).

APA fails to explicitly disclose reducing the recovery time after a failure. However, Dongho Lee discloses reducing the recovery time after a failure (Dongho Lee page 667, section 4.2, particularly, col. 2, lines 1-5). It would have been obvious to a person of ordinary skill in the art at the time the invention

Art Unit: 2162

was made to modify the method of APA by reducing the recovery time as disclosed by Dongho Lee (Dongho Lee - figure 6). Such a modification would allow the method of APA to provide performance improvement in a main memory database system (Dongho Lee, page 663, abstract).

While the combination of APA/Dongho Lee substantially discloses the claimed invention, the combination fails to specifically disclose in detail corresponds to an amount of work that is required during a redo phase of recovery. However, Jin Lee disclose corresponds to an amount of work that is required during a redo phase of recovery (Jin Lee col. 1, lines 15-18). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of APA/Dongho Lee by corresponding to an amount of work that is required during a redo phase of recovery as disclosed by Jin Lee (Jin Lee col. 2, lines 40-45). Such a modification would allow the method of APA/Dongho Lee to provide performance of transaction processing system can be enhanced by not interrupting other transactions even for a moment at the time of doing the checkpoint (Jin Lee col. 5, lines 24-27), therefore, improving the reliability of the method and system for controlling recovery downtime.

As per claim 8, in addition to claim 1, APA discloses “a byte offset to an identified redo log file” (i.e., byte offset which representing (identifying) redo record; page 7, paragraph [0023]).

As per claim 10, in addition to claim 1, APA further discloses “a computer-readable storage medium carrying one or more sequences of instructions, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors causes” (i.e., one or more processes (sequences instructions) executing on a database server; page 2, paragraph [0007]).

As per claim 16, in addition to claims 1 and 8, APA further discloses “execution of the one or more sequences of instructions by one or more processors causes the one or more processors to further perform” (i.e., processes executing on a database server; paragraph [0007]).

Art Unit: 2162

As per claim 17, APA discloses “the checkpoint value comprises a byte offset to an identified redo log file” (i.e., a byte offset that indicates where the particular redo record is located within the redo log file; paragraph [0012]).

As per claim 19, APA discloses “the user-specified value is based upon a desired bound on a number of data blocks that is required to be read after said failure” (paragraph [0025], lines 5-8).

As per claim 20, the limitations of claim 20 are similar to claim 1, therefore, the limitations of claim 20 are rejected in the analysis of claim 1, and this claim is rejected on that basis.

Claim Objections/Allowable Subject Matter

Claims 2-7 and 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 9 and 18 are allowed.

Art Unit: 2162

CONTACT INFORMATION

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is (571)272-4035. The examiner can normally be reached on 10:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E. BREENE can be reached on 571 - 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEAN B. FLEURANTIN/
Primary Examiner, Art Unit 2162